

Claims:

1. A communication device comprising at least one processor to run at
5 least two operating systems, wherein the at least two operating systems include
 - a first operating system comprising a first group of threads, and
 - a second operating system comprising a second group of threads,the communication device further comprising at least one user interface, mobile station functions and data processing functions, and that of said at least two operating systems the first operating system relates to running of mobile station functions, and the second operating
15 system relates to running of data processing functions.
2. A communication device according to claim 1 including
 - means for generating an interrupt to said at least one processor,
 - means for selecting a thread from said first group of threads and second group of threads to execute as a result of said interrupt and as defined by any applications, said means for selecting including at least one at least partly common interrupt handler for said at least two operating systems, and
 - means for transmitting interrupt data to the operating system from
25 which the thread was selected including said thread to execute.
3. A communication device comprising at least one processor to run at least two operating systems, wherein the at least two operating systems include
 - a first operating system comprising a first group of threads, and
 - a second operating system comprising a second group of threads,the communication device further comprising at least a first user interface, a second user interface, mobile station functions and data processing functions, and that of said at least two operating systems the first operating system relates to running of mobile station functions,
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and the second operating system relates to running of data processing functions.

4. A communication device according to claim 3, wherein said first
5 user interface relates at least partly to said mobile station functions, and
said second user interface relates at least partly to said data processing
functions.
5. A communication device according to claim 4, wherein said first
10 user interface is a phone interface, and said second user interface is a
personal digital assistant interface.
6. A communication device according to claim 3 including means for
moving from the execution of the first operating system to the execution
15 of the second operating system, when no thread of the first operating
system is running.
7. A communication device according to claim 3 including means for
moving from the execution of the second operating system to run the
first operating system when an interrupt to the processor affects the
20 running of at least one thread under the first operating system.
8. A communication device according to claim 3, wherein at least the
first operating system is a real time operating system.
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9. A communication device according to claim 3, wherein the
processor comprises at least the following modes:
 - user mode,
 - privileged mode,
 - 30 - undefined mode, and
 - one or more interrupt modes,and that the first operating system being operable at least partly in the
undefined mode, the second operating system being operable at least
partly in the user mode, and that the interrupt handler being operable in
35 some of the one or more interrupt modes.

10. A communication device according to claim 3, the threads of said first group of threads one thread comprising said second operating system.

5 11. A communication device comprising:

- a first processor to run a first operating system comprising a first group of threads,
- a second processor to run a second operating system comprising a second group of threads,

10 – at least a first user interface and a second user interface, and

- mobile station functions and data processing functions,

wherein said first operating system relates to running of mobile station functions and the second operating system relates to running of data processing functions.

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12. A communication device according to claim 11, wherein said first user interface relates at least partly to said mobile station functions, and said second user interface relates at least partly to said data processing functions.

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13. A communication device according to claim 11 including

- means for generating an interrupt to said first processor and said second processor,
- means for selecting a thread from said first group of threads and second group of threads to execute as a result of said interrupt and as defined by any applications, said means for selecting including at least one at least partly common interrupt handler for said at least two operating systems, and
- means for transmitting interrupt data to the operating system from which the thread was selected including said thread to execute.

25 14. A communication device according to claim 11, wherein said first user interface is a phone interface, and said second user interface is a personal digital assistant interface.

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15. A communication device according to claim 11 including means for moving from the execution of the first operating system to the execution

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of the second operating system, when no thread of the first operating system is running.

16. A communication device according to claim 11 including means for moving from the execution of the second operating system to run the first operating system when an interrupt to the processor affects the running of at least one thread under the first operating system.
17. A communication device according to claim 11, wherein the processor comprises at least the following modes:
 - user mode,
 - privileged mode,
 - undefined mode, and
 - one or more interrupt modes,
18. A communication device according to claim 11, the threads of said first group of threads one thread comprising said second operating system.